Thank you for purchasing this instrument panel from Intellitronix. We value our customers!

INSTALLATION GUIDE

Buick Regal Dash Panel
Part Number: DP1503
Year Series: 1984 – 1987



After completing all wiring reconnect battery and power up the unit. Test all gauges before reinstalling dash, bezels, and hardware to prevent having to remove it all for any future troubleshooting.



Always disconnect the battery before attempting any electrical work on your vehicle.



KIT COMPONENTS

- One (1) Digital Circuit Board1
- One (1) 1/8" Tinted Acrylic Len
  - Peel off protective covering from both sides of the lens.
    Two (2) 1/16" Tinted Acrylic Lens
- One (1) 1/4" Black Acrylic Spacer
- One (1) Polystyrene Overlay
- One (1) Temperature Sending Unit **(S8023)**
  - ❖ 1/8" NPT, 0-355 Deg
  - ❖ 1/2" NPT Bushing
- One (1) Oil Pressure Sending Unit **(S8868)**
  - ❖ 1/8" NPT, 0-100 PSI Oil Pressure
- One (1) GM Speedometer Sensor **(S9013)**
  - ❖ 7/8" NPT
- One (1) Boost Sending Unit **(S9019)**
  - ❖ 1/8" NPT, 0-30 PSI

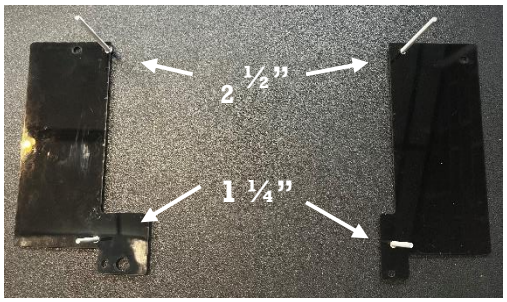
Mounting Kit

- Two (2) #6 x ½" Pan Head Screws
- Two (2) #6 x 1 ¼" Pan Head Screws
- Four (4) #4 x 1" Flat Head Screws
- Four (4) 4 Nylock Nuts
- Four (4) 4 Flat Washers
- Four (4) #6 x 3/8" Nylon Spacers
- Two (2) #6 x 1" Nylon Spacers
- Two (2) #6 x ¼" Nylon Spacers
- Four (4) 6 Nylock Nuts

INSTALLATION



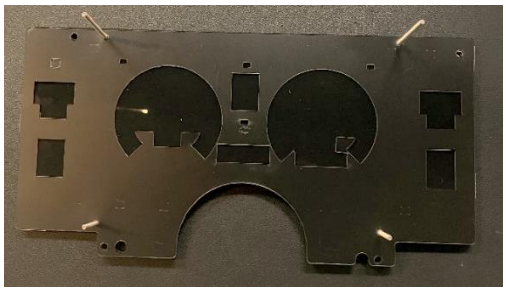
1. Remove all factory gauges from the stock bezel and housing. You will insert the INTELLITRONIX gauge assembly back into the black factory housing.



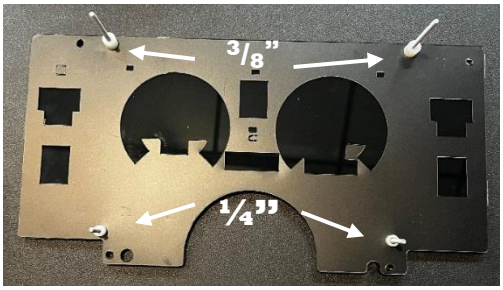
2. Insert the 2 $^{1}/_{2}$” and 1 $^{1}/_{4}$” screws into the shown locations on the $^{1}/_{16}$” tinted acrylic side panels (2 $^{1}/_{2}$” top and 1 $^{1}/_{4}$” bottom).



3. Line up the $^{1}/_{8}$” tinted acrylic lens with the screws and slide it down on top of the screws and side panels.



4. Place the polystyrene overlay over the top of the assembly and slide down.



5. Place two **3/8”** spacers over the top 2 screws and the two **¼”** spacers over the bottom 2 screws.



6. Place the circuit board onto the assembly and slide down onto the spacers.



7. Place the two 1” spacers over the top 2 screws and the two **3/8”** spacers over the bottom 2 screws

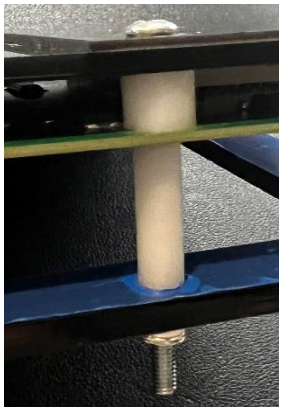


8. Place the **¼”** rear spacer over the assembly and slide down onto the spacers.



9. Secure the assembly together using the #6 Nylock Nuts.

Top Assembly

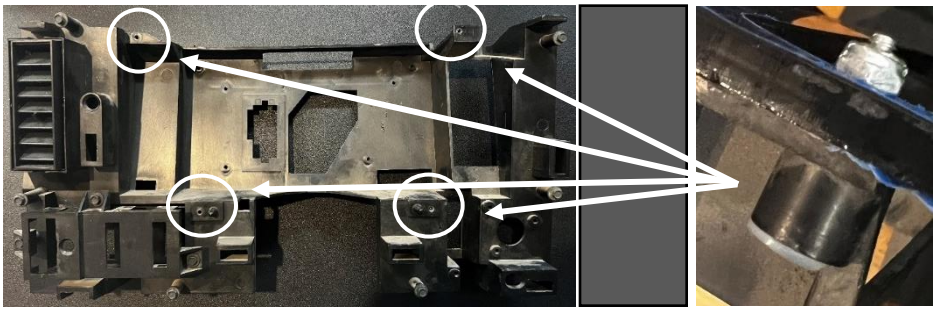


#6 x2 ½ ” Pan Head
1/16” Side Panel Lens
1/8” Smoked lens
3/8” Spacer
Circuit Board
1” Spacer
¼ ” Rear Spacer
#6 Nylock Nut

Bottom Assembly

#6 x 1 ¼ ” Pan Head
1/16” Side Panel Lens
1/8” Smoked lens
3/8” Spacer
Circuit Board
¼ ” Spacer
¼ ” Rear Spacers
#6 Nylock Nut





4 Nylock Nut

¼ ” Rear Acrylic Spacer

#4 x 1” Screw with #4 Nylon Washer (insert screw from bottom of assembly)

10. Mount the final assembly into the rear housing securing into place using the circled screw holes and configuration shown above.

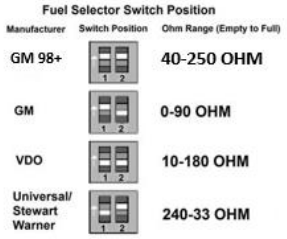
WIRING INSTRUCTIONS

FUEL GAUGE

Ensure fuel switches are in the correct position and gauge reads accurately before installing lens and placing unit back into bezel. The fuel switches are located near the fuel gauge on either the front or the rear of the circuit board.

Switch Position

Ω ‘s	1	2
40-250	UP	UP
0-90	UP	DOWN
10-180	DOWN	DOWN
240-33	DOWN	UP



Yellow, Wire to the signal wire coming from your factory sender. If you have a three wire sender that references voltage instead of resistance you will need to replace sender.

Black/Yellow, It is recommended you run this wire to the ground on your fuel sender. Fuel senders utilize the mounting plates as their ground

- **Fuel Gauge Test:** If your signal is absent or incorrect use a voltmeter to test for continuity on both ends of the signal wire. Once continuity is established check ohms reading at the dash and compare to fuel level in tank (ex. 0-90 sender reads 45 ohms at half tank of gas).

Ensure your voltage adjustment is done before installing lens and placing unit back into the bezel.

Voltage gauge displays information based on the ignition wire. All models have a potentiometer to adjust voltage reading to match your exact ignition system. They resemble a small Phillips screw head near the volt gauge either on the front or the rear of the circuit board.



LS Engines or any other Computer based engine systems must use the provided sending units in conjunction with the factory sending units to maintain communication to the computer.

Use 18 AWG or larger wire to ensure sufficient grounding. Poor vehicle grounds are the primary cause for erratic or inaccurate readings on electronic gauges.

Black, Wire to the vehicle engine block ground. The engine block should have heavy ground cables connected to the battery, frame, and firewall.
Red, Wire to constant +12V battery power source (Recommended to use at minimum a 3-amp inline fuse).

The red wire is not required for all vehicles. It will not be installed in those specific models.

Pink, Wire to switched +12V power from the fuse panel or vehicle wiring harness. (Recommended to use at minimum a 3-amp inline fuse). This wire should have power when key-on and starting ignition.

TEMPERATURE GAUGE

You must use the included sender for the gauge to read accurately!
This is a two-wire sender that includes the mating connector for your wiring harness. The Intellitronix sender is bi-polar, meaning either wire can be the ground or the signal wire.





❖ **Wiring The Connector**

Push wires through the two-hole seal and crimp on the terminal pins. Push pins into the connector until it clicks and locks in place. Follow illustration above for reference.

OIL PRESSURE GAUGE

You must use the included sender for your gauge to read accurately!

Orange, Wire to the **"S"** terminal on the sending unit.
Black/Orange, Wire to the **"G"** terminal on the sending unit.

PROGRAMMING BUTTONS

Some models have buttons mounted on the front of the unit and others are attached to grey wires that are meant to be mounted up under the dash. Both styles operate in the same way.

TACHOMETER (default setting is 8-cylinder)

If you do a LS engine swap, pick up the tach signal wire from the ECM/ECU and then set the tach switch to 4-cylinders. You may also need to order the INTELLITRONIX LS Series 1, 2 and 3 Engine Swap Adapter Kit (Part # 8014LS).

The tachometer requires at a minimum a 9VDC square wave signal.

Green Wire:

- **Ignition Coil**, Run wire to the negative (-) side of the coil or the wire that goes to the points or electronic ignition module.
- **GM HEI ignition**, Run wire to the terminal marked 'TACH' or, on some systems, a single white wire with a spade terminal.
- **After-Market Ignition and CDI Box** – Most systems offer a 12 VDC Square Wave TACH output terminal. Refer to those system instructions for setup.
- **Magneto** system, connect the tach signal wire to the negative side of the coil. Do not connect the tach terminal to the positive (+ *or* high voltage) side of the ignition coil. Many tachometers, shift lights or RPM-activated switches will not read directly from a Magneto, so your installation may need a Magneto Signal Converter to function properly.
- **Diesel,** The tachometer will not work correctly for a diesel engine without the use of a diesel tachometer adapter (Intellitronix does not sell this part).



A vehicle's engine can generate a large amount of electromagnetic interference. To ensure that the ignition system does not interfere with dashboard functions check to ensure the following conditions are met.

- Do not run tachometer wire alongside other senders or input wires.
- Do not use solid core spark plug wires with this dashboard system.
- Do not run wires close to the alternator.
- Check for cracked spark plug wires and boots.
- Use of Dielectric grease on connectors and in distributor is recommended.
- Use of grounded tin-plated copper sleeving can help to remove EMI.
- Use of ferrite tape and beads can help to remove EMI.

❖ **Programming**:

The display will only show setting options while in ac-power and no tach signal. Upon power up the program will continuously scroll through the three setting options below:

- Sets RPM increments, press button to change to: (hundreds) 8800, (tens) 8880, or (ones) 8888.
- Sets # of cylinders, press button to change to: 1, 2, 4, 6, 8, 10, or 12.
- Sets max RPM limit for 21 segment horseshoe display, Hold, or press button to change between 1000 and 9990.

All settings will be saved immediately unless you press the button again to change them.



If the engine is running and the programming mode is still scrolling through the settings, there is no signal to the tachometer or the signal is too weak.

❖ **Hi-RPM Recall**

Recalling the highest RPM that your vehicle has obtained since it was last reset. Press the button to display the recall value. Press and hold for several seconds to clear memory and reset the recall to "0".

SPEEDOMETER

White Wire:

Obtain your VSS signal using one of the 3 setups below that best fits your vehicle's configuration.

1. INTELLITRONIX SENDER, Disconnect the mechanical speedometer cable from the transmission and insert the new electronic sensor into the transmission. Follow this wiring for the Intellitronix speedometer sending unit:
   - **White**, Wire white wire on sender to **White** wire on dash panel.
   - **Red**, Wire red wire on sender to **Red/White** wire on dash panel.
   - **Black,** Wire black wire on sender to **Black/White** wire on the dash panel.



If you are not using the INTELLITRONIX sender you will not use the Red/White and Black/White wire on the dash unit.

2. Computer-based engines using a PCM/ECM need to locate the correct pin for VSS out and run to the white wire on the INTELLITRONIX unit. (Consult vehicles factory manual for correct pin #)
3. Most vehicles built after 1984 have an electronic transmission sender. The electronic VSS will usually have two wires attached to it. One connects to the Signal wire on dash (we prefer this to be high output). The other wire (low output)

ground at the engine block. To find the high and low output wire color or pin location will need to be looked up by Vehicle VIN or Model and year and consult your factory Pinout Chart.

Not every two wire VSS will work in this situation. If this is the case, there are two. attachments you can purchase to resolve this issue.

- Speed Interface Signal Box (Intellitronix does not carry this part)
- GPS Speed Sender (part # S9020)

When using an LS engine swap, you will need to pick up the Speedometer signal wire from the PCM Pin 50 on the red connector. (This pin may Differ. Refer to your vehicle's pinout chart for accuracy).

❖ **Trip Distance**

Tap the speedometer programming button once to display trip meter. A decimal point appears indicating trip mode. Holding in the programming button will reset the meter to zero. Tap the programming button again returning to odometer.

❖ **Programming and Calibration**

1. Hold in programming button until you see "HI-SP" and release (This can only be done when showing the odometer display).
2. The first three items to display are the last recorded performance information. It resets every time you cycle power on the dash panel.
   - **"HI-SP",** Displays highest speed reached.
   - **"0-60"**, Displays time recorded to reach 60 MPH.
   - **"1/4",** Displays time recorded to reach a quarter mile.
   - **"SSP"** Allows you to change the max speed limit for the sweep. Can be set in increments of 5, between 30 and 200 miles per hour. (This function not available on Speedo/Tach combination units).
   - **"ODO",** Allows you to enter vehicles current odometer reading. When "ODO" Displays tap the program button to enter the value of the farthest left digit in your current odometer reading. Then hold the program button to advance to the next digit. You enter them in order from left to right. When finished on the last digit wait for it to go past "CAL" (This will be completed in a separate step). and back to MPH screen. The data is now recorded.
   - **"CYLS",** Allows you to change your number of cylinders to 1, 2, 4, 6, 8, 10, 12.
   - **"CAL",** Allows you to calibrate your exact pulses per mile (para. 3 below).

   For Example: To enter the mileage reading 23456. Press 2 times and hold, press 3 times and hold, press 4 times and hold, press 5 times and hold, press 6 times and hold.

Read the next step completely to understand it before you begin. .

3. **"CAL",** Default Setting is 8,000 ppm (pulses per mile). Follow steps below to calibrate to the exact PPM for your vehicle.
   1. Choose a safe starting point to drive a designated mile or kilometer. This can be done using a mile marker or GPS on a phone or electronic device.
   2. Enter programming mode as explained above and wait for the screen to reach **"CAL"** mode.
   3. Tap the programming button again when the default 8,000 ppm shows. You will now see "0."
   4. Start driving until you reach the one (1) mile point and then tap the programming button again. You will now see **"CAP".**
   5. Wait until it returns to MPH screen (data is now recorded).

If the Speedometer did not receive any data during this process the display will show **"Err"** (error). Recheck all connections and ensure the sender or computer is putting out the correct signal. The speedometer operates on at a minimum 3 VDC square wave.

The remaining instructions apply to gauges and lights that are optional on various models. Check your board's product description if you are unsure if these apply to you.

DIMMER AND INDICATOR LIGHTS

Purple, Wire to the +12V side of the parking lights. This will dim the dash lighting 50% when your headlights turn on.

Do not connect to the headlight rheostat control wire, or the dimming feature will not work properly and may cause damage to the unit.

- **Tan,** Wire to the ground side of parking brake indicator light switch (Optional). If your vehicle uses a one-wire switch setup you may need to convert to a two-wire switch for it to work properly.
- **Brown,** Wire to +12V side of the high beam headlight circuit.
- **Green/Yellow,** Wire to the ground side of the Check Engine Light circuit (Optional).
- **Grey/White,** Wire to the existing right turn signal circuit.
- **Grey/Black**, Wire to the existing left turn signal circuit.
- **Light Green,** Wire to Tailgate Open circuit.

BOOST GAUGE

0-30 psi Sender
"WK", wire to the **Brown/Yellow** wire on the circuit board.
"G", Wire to **Black/Green** wire on the circuit board.

0-60 psi Sender
Red, Wire to the **Blue/White** wire on the circuit board.
Black, Wire to **Black/Purple** wire on the circuit board.
White, Wire to the **Brown/Yellow** wire on the circuit board.

CLOCK

- Press the buttons on the front of the dash (or they are momentary switches wired into the board). There are two buttons, one to set hours and the other to set minutes.

ADDITIONAL PRODUCTS FOR THIS VEHICLE

- GPS Speedometer sending Unit > Part # S9020
- Automatic Headlight Switch > Part # HL10001
- Quick connect Wire Harness > Part # QCWH20
- RGB LED Flexible Lighting > Part # RGBFS